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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/519,720	12/30/2004	Chishio Hosokawa	28955.1044	7491

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STEPTOE & JOHNSON LLP
1330 CONNECTICUT AVENUE, N.W.
WASHINGTON, DC 20036

EXAMINER	
NGUYEN, TRAM HOANG	
ART UNIT	PAPER NUMBER
2818	
MAIL DATE	DELIVERY MODE
08/05/2008	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/519,720	HOSOKAWA ET AL.	
	Examiner	Art Unit	
	TRAM H. NGUYEN	2818	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *04/25/2008*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *3-8,12-16 and 18-34* is/are pending in the application.

4a) Of the above claim(s) *3-8,23 and 30-34* is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *16,18-22, 24-29* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date *01/31/2008*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Election/Restrictions

Newly submitted claims 23, 30-34 are directed to an invention that is independent or distinct from the invention originally claimed for the following reasons:

According to applicant's response filed on 01/07/2007, the applicant elected Species VI, which requires that the inorganic thin film layer having metals comprising one or more metal selected from A group; and one or more metal selected from B, corresponding to claims 1,2.9,10,11 and 16-20. However, the newly added claims 23,30-34 are not readable on the elected species because the inorganic thin film layer comprising germanium oxide or cerium oxide (Owing to it does not expressly claims the inorganic layer is a combination of the the A group and the B group; moreover, Cerium oxide is the metal in the C group (see par.[0083])).

Since applicant has received an action on the merits for the originally presented invention, this invention has been constructively elected by original presentation for prosecution on the merits. Accordingly, claims 23,30-34 are withdrawn from consideration as being directed to a non-elected invention. See 37 CFR 1.142(b) and MPEP § 821.03.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the

invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claims 16,18-21,24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hosokawa (US 6,378,824), in view of Mishima (JP 2002056976)

Regarding **claim 21**, Fig. 1 of Hosokawa discloses an organic luminescence device comprising:

an anode (item 10);

an insulating or semiconductive inorganic thin film layer (12 is made of aluminum oxide, see col. 4, lines 48-55) having an energy gap of 2.7 eV or more (col. 4, lines 24-26);

an organic compound layer (14) comprising one or more layers which comprise at least an organic emitting layer (col. 4, lines 5-6); and a cathode (16);

the inorganic thin film layer (12) comprising one or more metals or compounds selected from metals, metal carbides, nitrides, silicides and borides (col. 4, lines 49-55); and

a cathode (16).

Hosokawa does not teach at least one of the layers containing an ortho-metallized metal complex.

However, Mishima teaches an organic luminescent device having an organic layer made of ortho-metallized metal complex (see Solution).

Therefore, it would have been obvious to one having ordinary skills in the art at the time the invention was made to include one of the layer containing an ortho-metallized metal complex in the organic luminescence device as taught Mishima in the device of Hosokawa in order to provide an organic luminescent element enabled to utilize for a surface light source of a full-color display, a back light, an array of a printer light source, or the like, enabled to illuminate in plurality, with high brightness and luminous efficiency, enabled to be manufactured into big size, and easy to manufacture (See Mishima: Problem to be solved).

Regarding **claim 16**, Hosokawa and Mishima disclose all the limitation of the claimed invention for the same reasons as set-forth above. Besides, Hosokawa teaches the inorganic thin film layer has a hole-injecting property (see co1.4, paragraph 7).

Regarding **claim 18**, Hosokawa and Mishima disclose all the limitation of the claimed invention for the same reasons as set-forth above. Besides, Mishima teaches the ortho-metallized metal complex is an iridium complex (see Mishima: Solution).

Regarding **claim 19**, Hosokawa and Mishima disclose all the limitation of the claimed invention for the same reasons as set-forth above except for the organic emitting layer comprises a polymer compound as a host material. However, it would have been obvious to one having ordinary skill in the art at the time the invention was made to include the organic emitting layer comprising a polymer compound as a host material in the organic luminescence structure as taught by Hosokawa in order to provide a good bondability.

Regarding **claim 20**, Hosokawa and Mishima disclose all the limitation of the claimed invention for the same reasons as set-forth above except for the claimed organic luminescence device is arranged on the plastic substrate. However, it would have been obvious to one having ordinary skill in the art at the time invention was made to include a plastic substrate in the organic luminescence device as disclosed by Hosokawa since it was well-known in the art that the plastic substrate is one of preferable substrate material due to its characteristics of good mechanical strength, less permeability of moisture and oxygen.

Regarding **claim 24**, Hosokawa and Mishima disclose all the limitation of the claimed invention for the same reasons as set-forth above. Besides, Hosokawa teaches the ionization energy of the inorganic thin film layer is more than 5.6 eV (see col. 4, lines 24-26).

Claims 22,25-29 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hosokawa in view of Mishima, and further in view of Kawamura et al. (US 6,416,888; hereinafter Kawamura).

Regarding **claim 22**, Fig. 1 of Hosokawa discloses an organic luminescence device comprising:

an anode (item 10);

an insulating or semiconductive inorganic thin film layer (12 is made of aluminum oxide, see col. 4, lines 48-55) having an energy gap of 2.7 eV or more (col. 4, lines 24-26);

an organic compound layer (14) comprising one or more layers which comprise at least an organic emitting layer (col. 4, lines 5-6); and a cathode (16);

the inorganic thin film layer (12) comprising one or more metals or compounds selected from metals, metal carbides, nitrides, silicides and borides (col. 4, lines 49-55); and

a cathode (16).

Hosokawa does not teach at least one of the layers containing an ortho-metallized metal complex.

However, Mishima teaches an organic luminescent device having an organic layer made of ortho-metallized metal complex (see Solution).

Therefore, it would have been obvious to one having ordinary skills in the art at the time the invention was made to include one of the layer containing an ortho-metallized metal complex in the organic luminescence device as taught Mishima in the device of Hosokawa in order to provide an organic luminescent element enabled to utilize for a surface light source of a full-color display, a back light, an array of a printer light source, or the like, enabled to illuminate in plurality, with high brightness and

luminous efficiency, enabled to be manufactured into big size, and easy to manufacture (See Mishima: Problem to be solved).

Hosokawa and Mishima failure to teach the metals being two or more metals comprising: one or more metals selected from the following A group; and one or more metals selected from the following B group;

A group: In, Sn, Ga, Si, Ge, Zn, Cd, Mg, Al, Ta and Ti;

B group: B, T1, Ge, Sn, Pb, As, Bi, Te, Po, Au, Ni, Ir, Pt, Pd, Ru, Bi and Co, having a work function of 4.5 eV or more

Fig. 1 of Kawamura discloses a similar organic luminescence device comprising: the metals being two or more metals comprising one or more metals selected from the following A group; and one or more metals selected from the following B group; A group: In, Sn, Ga, Si, Ge, Zn, Cd, Mg, Al, Ta and Ti; B group: B, T1, Ge, Sn, Pb, As, Bi, Te, Po, Au, Ni, Ir, Pt, Pd, Ru, Bi and Co, having a work function of 4.5 eV or more (col. 5, lines 56-67 and col. 6, lines 52-57).

Thereof, it would have been obvious to one having ordinary skills in the art at the time the invention was made to combine the metals being two or more metals comprising one or more metals selected from the following A group; and one or more metals selected from the following B group; A group: In, Sn, Ga, Si, Ge, Zn, Cd, Mg, Al, Ta and Ti; B group: B, T1, Ge, Sn, Pb, As, Bi, Te, Po, Au, Ni, Ir, Pt, Pd, Ru, Bi and Co, having a work function of 4.5 eV or more as taught by Kawamura in the teaching of Hosokawa in order to obtain the organic EL device exhibiting durability, a low driving voltage, and high luminuous brightness (Kawamura: col. 3, lines 11-16).

Regarding **claim 25**, Hosokawa, Mishima and Kawamura disclose all the limitation of the claimed invention for the same reasons as set-forth above. Besides, Hosokawa teaches the inorganic thin film layer has a hole-injecting property (see co1.4, paragraph 7).

Regarding **claim 26**, Hosokawa, Mishima and Kawamura disclose all the limitation of the claimed invention for the same reasons as set-forth above. Besides, Hosokawa teaches the ionization energy of the inorganic thin film layer is more than 5.6 eV (see col. 4, lines 24-26).

Regarding **claim 27**, Hosokawa, Mishima and Kawamura disclose all the limitation of the claimed invention for the same reasons as set-forth above. Besides, Mishima teaches the ortho-metallized metal complex is an iridium complex (see Mishima: Solution).

Regarding **claim 28**, Hosokawa, Mishima and Kawamura disclose all the limitation of the claimed invention for the same reasons as set-forth above except for the organic emitting layer comprises a polymer compound as a host material. However, it would have been obvious to one having ordinary skill in the art at the time the invention was made to include the organic emitting layer comprising a polymer compound as a host material in the organic luminescence structure as taught by Hosokawa in order to provide a good bondability.

Regarding **claim 29**, Hosokawa, Mishima and Kawamura disclose all the limitation of the claimed invention for the same reasons as set-forth above except for the claimed organic luminescence device is arranged on the plastic substrate. However,

it would have been obvious to one having ordinary skill in the art at the time invention was made to include a plastic substrate in the organic luminescence device as disclosed by Hosokawa since it was well-known in the art that the plastic substrate is one of preferable substrate material due to its characteristics of good mechanical strength, less permeability of moisture and oxygen.

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL.** See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tram Hoang Nguyen whose telephone number is (571)272-5526. The examiner can normally be reached on Monday-Friday, 8:30 AM –

5:00 PM. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Steven Loke can be reached on (571)272-1657. The fax numbers for all communication(s) is (703)872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (571)272-1625.

/Tram H Nguyen/
Examiner, Art Unit 2818

/Dao H Nguyen/
Primary Examiner, Art Unit 2818
August 01, 2008